1
00:00:00,000 --> 00:00:13,110
[Music]

2
00:00:21,590 --> 00:00:14,660
between countries

3
00:00:21,600 --> 00:00:29,029
discovery clears the tower

4
00:00:29,039 --> 00:00:40,640
you discovery

5
00:00:51,510 --> 00:00:47,230
[Music]

6
00:00:53,350 --> 00:00:51,520
good afternoon it's saturday may 1st

7
00:00:55,430 --> 00:00:53,360
here at spacex's headquarters in

8
00:00:57,910 --> 00:00:55,440
hawthorne california

9
00:01:00,389 --> 00:00:57,920
we are coming to you live as we wait for

10
00:01:02,069 --> 00:01:00,399
dragon resilient spacecraft to depart

11
00:01:04,469 --> 00:01:02,079
from the international space station and

12
00:01:06,469 --> 00:01:04,479
make its way back to planet earth we do

13
00:01:09,350 --> 00:01:06,479

expect dragon resilience to push away

14
00:01:11,670 --> 00:01:09,360
from the space station at about 5 35 pm

15
00:01:13,830 --> 00:01:11,680
pacific time with our crew on astronauts

16
00:01:16,390 --> 00:01:13,840
uh two three from nasa

17
00:01:18,550 --> 00:01:16,400
mike hopkins uh victor glover shannon

18
00:01:21,190 --> 00:01:18,560
walker and from japan aerospace

19
00:01:23,510 --> 00:01:21,200
exploration agency astronauts so ichi

20
00:01:25,510 --> 00:01:23,520
noguchi my name is andy tran i'm a

21
00:01:27,590 --> 00:01:25,520
production supervisor here at spacex i'm

22
00:01:29,670 --> 00:01:27,600
very excited to be bringing you live

23
00:01:32,310 --> 00:01:29,680
coverage of the crew dragon uh

24
00:01:34,069 --> 00:01:32,320
completing its second trip to the uh to

25
00:01:36,149 --> 00:01:34,079
the space station with people on board

26
00:01:38,390 --> 00:01:36,159
as nasa's first official long-duration

27
00:01:40,789 --> 00:01:38,400
mission of our commercial crew program

28
00:01:42,870 --> 00:01:40,799
joining me today is nasa's public

29
00:01:44,389 --> 00:01:42,880
affairs officer leah cheshard leah how

30
00:01:46,230 --> 00:01:44,399
are you doing today hey andy i'm doing

31
00:01:47,910 --> 00:01:46,240
awesome because you can't be anything

32
00:01:49,830 --> 00:01:47,920
else than that whenever you're excited

33
00:01:52,630 --> 00:01:49,840
about uh bringing some people home from

34
00:01:54,310 --> 00:01:52,640
space so once dragon departs station the

35
00:01:56,389 --> 00:01:54,320
cruise flight home is expected to last

36
00:01:58,310 --> 00:01:56,399
roughly six and a half hours and include

37
00:02:00,630 --> 00:01:58,320
four departure burns that move dragon

38
00:02:02,950 --> 00:02:00,640

away from station and one final deorbit

39
00:02:04,870 --> 00:02:02,960
burn dragon is targeted to splash down

40
00:02:08,070 --> 00:02:04,880
off the coast of panama city florida in

41
00:02:11,270 --> 00:02:08,080
the gulf of mexico at 11 56 p.m pacific

42
00:02:13,350 --> 00:02:11,280
or 6 56 gmt followed by the crew getting

43
00:02:14,869 --> 00:02:13,360
picked up at sea by one of spacex's

44
00:02:16,390 --> 00:02:14,879
recovery vessels

45
00:02:18,150 --> 00:02:16,400
now the crew have been up there for

46
00:02:20,790 --> 00:02:18,160
quite a while the mission began on

47
00:02:23,750 --> 00:02:20,800
november 15th of last year just a heads

48
00:02:25,110 --> 00:02:23,760
up we saw something small silver float

49
00:02:29,510 --> 00:02:25,120
towards the airlock bottom of the

50
00:02:29,520 --> 00:02:42,470
towards the deck

51
00:02:47,670 --> 00:02:44,869
uh so what we heard was those beeps are

52
00:02:49,990 --> 00:02:47,680
quindar tones and that is the core or

53
00:03:02,869 --> 00:02:50,000
the crew operations resource engineer

54
00:03:06,630 --> 00:03:04,630
so that was the capcom the capsule

55
00:03:08,229 --> 00:03:06,640
communicator uh in houston still

56
00:03:09,910 --> 00:03:08,239
communicating with the astronauts aboard

57
00:03:12,470 --> 00:03:09,920
the international space station as well

58
00:03:14,309 --> 00:03:12,480
as we get crew one suited up and back

59
00:03:16,390 --> 00:03:14,319
into crew dragon

60
00:03:17,910 --> 00:03:16,400
and we'll try to pause to make sure that

61
00:03:21,589 --> 00:03:17,920
everyone can hear those communications

62
00:03:23,830 --> 00:03:21,599
but um and houston copied

63
00:03:27,190 --> 00:03:23,840

which direction was it uh

64
00:03:27,200 --> 00:03:32,949
glad to be of help

65
00:03:38,869 --> 00:03:35,830
so this mission began uh last november

66
00:03:38,879 --> 00:03:44,470
spacex here

67
00:03:47,830 --> 00:03:46,390
hey anna i think uh

68
00:03:49,830 --> 00:03:47,840
the

69
00:03:52,070 --> 00:03:49,840
control panel lighting batteries that

70
00:03:54,229 --> 00:03:52,080
are installed now are the newest of the

71
00:03:56,229 --> 00:03:54,239
two of the four but i just wanted to

72
00:03:58,229 --> 00:03:56,239
confirm do you want us to replace the

73
00:04:00,789 --> 00:03:58,239
batteries or do you want us to leave the

74
00:04:10,949 --> 00:04:00,799
ones that are currently installed

75
00:04:14,550 --> 00:04:12,550
so as you can hear there are a lot of

76
00:04:15,910 --> 00:04:14,560
checks underway right now between teams

77
00:04:18,150 --> 00:04:15,920
here on the ground in mission control

78
00:04:19,749 --> 00:04:18,160
hawthorne and in mission control houston

79
00:04:21,830 --> 00:04:19,759
with both the crew on the international

80
00:04:23,749 --> 00:04:21,840
space station that will remain once crew

81
00:04:25,909 --> 00:04:23,759
went to parts today and the crew won

82
00:04:27,350 --> 00:04:25,919
astronauts themselves so

83
00:04:28,870 --> 00:04:27,360
it's it's just those final checks that

84
00:04:30,790 --> 00:04:28,880
have to happen as we're getting ready

85
00:04:31,909 --> 00:04:30,800
for uh hatch closure coming up here

86
00:04:34,390 --> 00:04:31,919
shortly

87
00:04:35,990 --> 00:04:34,400
and on screen that is a view

88
00:04:37,830 --> 00:04:36,000

uh from the international space station

89
00:04:38,490 --> 00:04:37,840
that is suici

90
00:04:40,390 --> 00:04:38,500
suiting up

91
00:04:42,070 --> 00:04:40,400
[Music]

92
00:04:43,030 --> 00:04:42,080
he and shannon walker will go ahead and

93
00:04:45,189 --> 00:04:43,040
suit up

94
00:04:46,469 --> 00:04:45,199
outside and that's aki hoshide next to

95
00:04:48,710 --> 00:04:46,479
him that's the new space station

96
00:04:50,950 --> 00:04:48,720
commander uh command was transferred

97
00:04:53,909 --> 00:04:50,960
over to him from shannon walker who's

98
00:04:55,670 --> 00:04:53,919
also departing today uh and walker will

99
00:04:57,590 --> 00:04:55,680
have probably already suited up at this

100
00:04:59,510 --> 00:04:57,600
point they will ingress the vehicle

101
00:05:02,150 --> 00:04:59,520
already in their suits and mike hopkins

102
00:05:15,909 --> 00:05:02,160
and victor glover will suit up after

103
00:05:19,830 --> 00:05:17,270
on the big loop and you guys are coming

104
00:05:22,950 --> 00:05:19,840
in a little bit scratchy

105
00:05:25,029 --> 00:05:22,960
copy yes we concur you swapped those for

106
00:05:26,710 --> 00:05:25,039
port relo and those ones that you have

107
00:05:32,150 --> 00:05:26,720
in there are good to go you can skip

108
00:05:32,160 --> 00:06:08,390
okay copy we'll leave as is thank you

109
00:06:13,110 --> 00:06:11,110
so as we wait uh we can see

110
00:06:14,870 --> 00:06:13,120
a lot of astronauts continuing to help

111
00:06:15,909 --> 00:06:14,880
soichi uh looks like they're taking

112
00:06:17,590 --> 00:06:15,919
photos

113
00:06:20,070 --> 00:06:17,600

you'll notice a lot of

114
00:06:22,629 --> 00:06:20,080
picture taking throughout this process a

115
00:06:24,070 --> 00:06:22,639
lot of those are sent to ground to

116
00:06:27,110 --> 00:06:24,080
help inspect

117
00:06:29,510 --> 00:06:27,120
seals or potential

118
00:06:32,870 --> 00:06:29,520
fod that may be in hatches but it looks

119
00:06:33,590 --> 00:06:32,880
like he is going up into the zenith port

120
00:06:35,990 --> 00:06:33,600
and

121
00:06:37,510 --> 00:06:36,000
in that space where another astronaut is

122
00:06:38,790 --> 00:06:37,520
going right now that is where the dragon

123
00:06:41,189 --> 00:06:38,800
capsule

124
00:06:48,070 --> 00:06:41,199
that will depart today is currently

125
00:06:51,749 --> 00:06:50,550
and that is tsuichi going

126
00:06:55,909 --> 00:06:51,759
through the

127
00:06:57,749 --> 00:06:55,919
apas hatch and the best fuel into dragon

128
00:06:59,990 --> 00:06:57,759
we've got some cargo stowage right there

129
00:07:01,430 --> 00:07:00,000
as well

130
00:07:03,110 --> 00:07:01,440
love getting those final photos with

131
00:07:05,350 --> 00:07:03,120
your crew members in space the next time

132
00:07:07,270 --> 00:07:05,360
they'll all see each other uh is when

133
00:07:08,629 --> 00:07:07,280
those crew members return to earth as

134
00:07:09,749 --> 00:07:08,639
well so

135
00:07:11,110 --> 00:07:09,759
i think it could probably be kind of

136
00:07:13,350 --> 00:07:11,120
hard to leave your friends after

137
00:07:15,749 --> 00:07:13,360
spending almost six months on board with

138
00:07:19,510 --> 00:07:17,350

and there's nasa astronaut shane

139
00:07:21,430 --> 00:07:19,520
kimbrough who just arrived a week ago on

140
00:07:23,670 --> 00:07:21,440
the crew 2 mission

141
00:07:25,510 --> 00:07:23,680
he's helping them complete their checks

142
00:07:30,950 --> 00:07:25,520
ahead of hash closure and undocking

143
00:07:34,469 --> 00:07:32,550
and also part of the

144
00:07:36,870 --> 00:07:34,479
crew 2

145
00:07:39,189 --> 00:07:36,880
astronaut does toma pesque

146
00:07:42,550 --> 00:07:39,199
with his hand on the blue

147
00:07:45,189 --> 00:07:42,560
rail he's also going in to see if he can

148
00:07:47,189 --> 00:07:45,199
help as well

149
00:07:49,189 --> 00:07:47,199
heskey also arrived a week ago and he

150
00:08:05,110 --> 00:07:49,199
was the first european space agency

151
00:08:05,120 --> 00:09:00,949
so

152
00:09:04,310 --> 00:09:02,310
in this view from the inside of the

153
00:09:06,310 --> 00:09:04,320
international space station at the cabo

154
00:09:08,710 --> 00:09:06,320
module the japanese aerospace

155
00:09:10,310 --> 00:09:08,720
exploration agency module and you can

156
00:09:12,230 --> 00:09:10,320
see a lot of those stickers there tell

157
00:09:13,750 --> 00:09:12,240
us a little bit about the history of

158
00:09:15,990 --> 00:09:13,760
who's been on board you've got some crew

159
00:09:17,269 --> 00:09:16,000
member signatures and sentiments and to

160
00:09:19,110 --> 00:09:17,279
learn a little bit more about the

161
00:09:20,949 --> 00:09:19,120
international space station side of

162
00:09:23,430 --> 00:09:20,959
things and how those operations are

163
00:09:25,350 --> 00:09:23,440

going in preparation for undock let's

164
00:09:28,870 --> 00:09:25,360
talk with our colleague brandy dean in

165
00:09:33,750 --> 00:09:31,990
thanks leah and andy and we are here

166
00:09:35,750 --> 00:09:33,760
inside the international space station

167
00:09:37,990 --> 00:09:35,760
flight control room watching just as you

168
00:09:40,470 --> 00:09:38,000
guys there are there in california we're

169
00:09:42,310 --> 00:09:40,480
currently awaiting the astronauts as you

170
00:09:44,389 --> 00:09:42,320
said mike hopkins victor glover shannon

171
00:09:46,630 --> 00:09:44,399
walker and japan aerospace exploration

172
00:09:48,470 --> 00:09:46,640
agency astronauts luigi niguchi to

173
00:09:51,829 --> 00:09:48,480
ingress and board dragon for their

174
00:09:54,550 --> 00:09:51,839
return flight home

175
00:09:57,269 --> 00:09:54,560
as you are seeing ingress is definitely

176
00:09:59,269 --> 00:09:57,279
already underway it'll wrap up once mike

177
00:10:04,630 --> 00:09:59,279
hopkins and victor glover board in just

178
00:10:08,790 --> 00:10:06,230
getting into their spacesuit inside

179
00:10:10,790 --> 00:10:08,800
we've seen uh shannon walker and uh

180
00:10:13,190 --> 00:10:10,800
gucci already in their spacesuit but

181
00:10:16,150 --> 00:10:13,200
victor and mike will follow up by

182
00:10:17,110 --> 00:10:16,160
putting theirs on once they do board

183
00:10:19,590 --> 00:10:17,120
let's take a look at some of the

184
00:10:23,350 --> 00:10:19,600
upcoming milestones not only for today's

185
00:10:28,790 --> 00:10:25,990
first up of course at 3 20 p.m pacific

186
00:10:31,190 --> 00:10:28,800
time or 5 20 central we will be watching

187
00:10:32,870 --> 00:10:31,200
for hatch closure once all dragon crew

188
00:10:34,389 --> 00:10:32,880

members are inside their vehicle in just

189
00:10:35,750 --> 00:10:34,399
a few minutes from now

190
00:10:37,110 --> 00:10:35,760
they'll be able to close the hatches

191
00:10:39,430 --> 00:10:37,120
between them and the international space

192
00:10:41,110 --> 00:10:39,440
station as i said mike and victor will

193
00:10:43,110 --> 00:10:41,120
be donning their spacesuits once they

194
00:10:44,949 --> 00:10:43,120
are inside the dragon and as you saw

195
00:10:46,230 --> 00:10:44,959
there on the screen those aren't the big

196
00:10:48,470 --> 00:10:46,240
white spacesuits you might remember from

197
00:10:50,790 --> 00:10:48,480
spacewalks but the spacex spacesuits the

198
00:10:52,870 --> 00:10:50,800
crew will wear during all of the night

199
00:10:57,190 --> 00:10:52,880
all of the dynamic phases of flight to

200
00:11:00,310 --> 00:10:58,790
there'll also be a series of elite

201
00:11:02,150 --> 00:11:00,320
checks on the spacecraft that'll occur

202
00:11:05,110 --> 00:11:02,160
before the crew makes their way into

203
00:11:08,710 --> 00:11:05,120
their seats to strap in for undocking

204
00:11:11,269 --> 00:11:08,720
at 3 25 pm pacific or 5 25 central we'll

205
00:11:12,949 --> 00:11:11,279
have the a pass hatch closure

206
00:11:14,310 --> 00:11:12,959
once dragon's hatch is closed shane

207
00:11:16,069 --> 00:11:14,320
kimbra one of the space station crew

208
00:11:17,829 --> 00:11:16,079
members staying behind will fix a

209
00:11:19,670 --> 00:11:17,839
docking target to the outside of the

210
00:11:21,590 --> 00:11:19,680
a-pass hatch and then close it creating

211
00:11:23,350 --> 00:11:21,600
a space between dragon and the station

212
00:11:25,350 --> 00:11:23,360
known as the vestibule

213
00:11:27,590 --> 00:11:25,360

he'll then make his way out of the

214
00:11:29,430 --> 00:11:27,600
pressurized mating adapter between the

215
00:11:33,110 --> 00:11:29,440
two vehicles and close the forward hatch

216
00:11:36,310 --> 00:11:33,120
on node two of the space station

217
00:11:37,990 --> 00:11:36,320
spacex this is resilient

218
00:11:41,190 --> 00:11:38,000
cabin configuration for departure is

219
00:11:43,509 --> 00:11:41,200
complete two decimal one that was zero

220
00:11:46,389 --> 00:11:43,519
however ike is still working on

221
00:11:52,150 --> 00:11:46,399
the polar lockers

222
00:11:55,269 --> 00:11:53,670
dragon commander mike hopkins there

223
00:11:57,590 --> 00:11:55,279
reporting that they are making their way

224
00:11:59,670 --> 00:11:57,600
through the different tasks and check

225
00:12:05,350 --> 00:11:59,680
marks that they need before they are

226
00:12:10,470 --> 00:12:07,509
continuing through the activities coming

227
00:12:12,870 --> 00:12:10,480
up at 4 10 pm pacific or 6 10 central

228
00:12:14,790 --> 00:12:12,880
will have vestibule depressurization

229
00:12:16,389 --> 00:12:14,800
once all the hatches are closed a ground

230
00:12:18,310 --> 00:12:16,399
command will be sent to open valves on

231
00:12:20,069 --> 00:12:18,320
dragon and begin depressurizing the

232
00:12:22,230 --> 00:12:20,079
vestibule essentially venting the air

233
00:12:24,629 --> 00:12:22,240
inside and bringing it down close to

234
00:12:26,470 --> 00:12:24,639
vacuum they'll pause at about five

235
00:12:27,910 --> 00:12:26,480
pounds per square inch for a few minutes

236
00:12:30,150 --> 00:12:27,920
to allow temperatures inside the

237
00:12:32,470 --> 00:12:30,160
vestibule to stabilize before they

238
00:12:35,590 --> 00:12:32,480

finish that depressurization

239
00:12:38,069 --> 00:12:35,600
and then at 5 20 pm central 7 20 uh p.m

240
00:12:40,389 --> 00:12:38,079
pacific 7 20 central will listen for the

241
00:12:42,710 --> 00:12:40,399
go no go call for undocking teams here

242
00:12:44,710 --> 00:12:42,720
in mission control houston and in mcc x

243
00:12:47,190 --> 00:12:44,720
and hawthorne will do a joint call for

244
00:12:51,110 --> 00:12:47,200
undocking

245
00:12:53,350 --> 00:12:51,120
finally at 5 35 pm pacific 7 35 central

246
00:12:55,030 --> 00:12:53,360
is that will be the actual separation an

247
00:12:57,430 --> 00:12:55,040
undocking command will be sent followed

248
00:12:58,949 --> 00:12:57,440
by a few minutes for the umbilical that

249
00:13:01,509 --> 00:12:58,959
connects the power and data between the

250
00:13:03,030 --> 00:13:01,519
two spacecraft to detach and for 12

251
00:13:04,870 --> 00:13:03,040
hooks holding the dragon in place to

252
00:13:06,389 --> 00:13:04,880
retract

253
00:13:08,550 --> 00:13:06,399
then two quick firings of the dragon's

254
00:13:14,949 --> 00:13:08,560
thrusters will initiate separation and

255
00:13:18,310 --> 00:13:16,629
nasa astronaut shane kimbrough is going

256
00:13:19,910 --> 00:13:18,320
to watch the undocking and departure

257
00:13:23,350 --> 00:13:19,920
from the cupola but the prime departure

258
00:13:24,790 --> 00:13:23,360
monitoring role falls on the crew

259
00:13:26,509 --> 00:13:24,800
mission control houston will back them

260
00:13:45,509 --> 00:13:26,519
up from the

261
00:13:52,470 --> 00:13:48,389
and resilience spacex assuming that

262
00:13:54,710 --> 00:13:52,480
means bolt torquing is complete

263
00:13:57,110 --> 00:13:54,720

you are go

264
00:14:00,949 --> 00:13:57,120
to complete lyo configuration imv

265
00:14:03,430 --> 00:14:00,959
teardown and hatch closure per procedure

266
00:14:05,430 --> 00:14:03,440
two decimal one zero three

267
00:14:07,110 --> 00:14:05,440
you can perform a lyo change out to

268
00:14:09,350 --> 00:14:07,120
cartridge two

269
00:14:11,350 --> 00:14:09,360
and when complete then execute your

270
00:14:12,389 --> 00:14:11,360
instructions in your hatch closed event

271
00:14:15,269 --> 00:14:12,399
details

272
00:14:21,670 --> 00:14:15,279
followed by suit donning per procedure

273
00:14:26,670 --> 00:14:24,710
okay so we have a go uh pike is complete

274
00:14:28,470 --> 00:14:26,680
with the polar torque gain

275
00:14:31,750 --> 00:14:28,480
2.103

276
00:14:34,069 --> 00:14:31,760
yl cartridge is two and once complete

277
00:14:37,430 --> 00:14:34,079
with all of that uh we'll go to close

278
00:14:46,629 --> 00:14:37,440
the hatch and get into the event details

279
00:14:49,910 --> 00:14:48,150
mike hopkins again commander of the

280
00:14:52,310 --> 00:14:49,920
dragon talking with the team on the

281
00:14:54,230 --> 00:14:52,320
ground in mission control uh x in

282
00:14:56,069 --> 00:14:54,240
hawthorne about the steps that are

283
00:14:57,990 --> 00:14:56,079
getting the dragon ready for its

284
00:15:00,230 --> 00:14:58,000
departure today and specifically the

285
00:15:02,069 --> 00:15:00,240
lithium hydroxide cartridge

286
00:15:04,150 --> 00:15:02,079
reconfiguration they'll also be working

287
00:15:05,030 --> 00:15:04,160
on some tear down of ducts between the

288
00:15:06,150 --> 00:15:05,040

two

289
00:15:07,990 --> 00:15:06,160
vehicles the dragon and the

290
00:15:09,269 --> 00:15:08,000
international space station all leading

291
00:15:13,189 --> 00:15:09,279
up to that hatch closure that we're

292
00:15:17,030 --> 00:15:15,350
here on the space station side of uh the

293
00:15:18,310 --> 00:15:17,040
activities we're looking good solar

294
00:15:20,069 --> 00:15:18,320
arrays are locked in place and we have

295
00:15:21,910 --> 00:15:20,079
good communication links attitude is

296
00:15:23,750 --> 00:15:21,920
going to remain on the united states

297
00:15:25,590 --> 00:15:23,760
thruster control until the time of

298
00:15:28,470 --> 00:15:25,600
undocking when we'll switch to

299
00:15:30,389 --> 00:15:28,480
use control moment gyroscopes only

300
00:15:31,910 --> 00:15:30,399
we're tracking no issues for an on-time

301
00:15:33,829 --> 00:15:31,920
departure

302
00:15:35,189 --> 00:15:33,839
and as we get ready for that final

303
00:15:38,629 --> 00:15:35,199
ingress i'll throw it back to leah and

304
00:15:42,710 --> 00:15:40,710
thanks so much brandi and uh we heard

305
00:15:44,790 --> 00:15:42,720
several calls there and one being that

306
00:15:46,790 --> 00:15:44,800
they would go for hatch closure you can

307
00:15:49,189 --> 00:15:46,800
see nasa astronaut shane kimbrough

308
00:15:51,910 --> 00:15:49,199
continuing to do some work around the

309
00:15:53,670 --> 00:15:51,920
hatches and in that vestibule area uh

310
00:15:56,150 --> 00:15:53,680
and we should probably mention that just

311
00:15:58,389 --> 00:15:56,160
before we came on air today we heard

312
00:15:59,990 --> 00:15:58,399
that the weather is go in the most

313
00:16:02,310 --> 00:16:00,000

recent weather briefing that comes about

314
00:16:04,069 --> 00:16:02,320
two and a half hours prior to undocking

315
00:16:05,509 --> 00:16:04,079
so everything continues to move on the

316
00:16:06,790 --> 00:16:05,519
timeline here

317
00:16:08,389 --> 00:16:06,800
and then there in the center of your

318
00:16:10,150 --> 00:16:08,399
screen you've also got

319
00:16:13,269 --> 00:16:10,160
nasa astronaut megan macarthur she

320
00:16:31,910 --> 00:16:13,279
arrived with the crew members a week ago

321
00:16:35,110 --> 00:16:33,430
let's learn a little bit more about our

322
00:16:36,790 --> 00:16:35,120
astronauts that are departing today

323
00:16:39,030 --> 00:16:36,800
we've got crew dragon commander mike

324
00:16:41,509 --> 00:16:39,040
hopkins who was born in lebanon missouri

325
00:16:43,430 --> 00:16:41,519
but grew up outside richland missouri he

326
00:16:46,230 --> 00:16:43,440
was selected as an astronaut by nasa in

327
00:16:48,230 --> 00:16:46,240
2009 he's a colonel in the united states

328
00:16:50,470 --> 00:16:48,240
air force and holds degrees in aerospace

329
00:16:53,189 --> 00:16:50,480
engineering hawkins flew on the russian

330
00:16:56,629 --> 00:16:53,199
soyuz is a member of the expedition 3738

331
00:16:58,550 --> 00:16:56,639
crew logging 166 days in space he

332
00:17:00,550 --> 00:16:58,560
performed two spacewalks totaling almost

333
00:17:02,470 --> 00:17:00,560
13 hours to change out a degraded pump

334
00:17:04,390 --> 00:17:02,480
module on the space station and his

335
00:17:07,669 --> 00:17:04,400
military experience includes testing

336
00:17:10,470 --> 00:17:07,679
c-17 and c-130 aircraft during this

337
00:17:14,150 --> 00:17:10,480
mission he also completed two more uh

338
00:17:16,789 --> 00:17:14,160

spacewalks bringing his total to four

339
00:17:19,189 --> 00:17:16,799
next up is pilot victor glover he's a

340
00:17:20,949 --> 00:17:19,199
native of pomona california he was

341
00:17:23,669 --> 00:17:20,959
selected as an astronaut by nasa in

342
00:17:25,669 --> 00:17:23,679
2013. glover is a commander in the

343
00:17:27,350 --> 00:17:25,679
united states navy holds degrees in

344
00:17:31,350 --> 00:17:27,360
general engineering flight test

345
00:17:35,190 --> 00:17:31,360
engineering systems engineering

346
00:17:42,549 --> 00:17:37,430
okay i just want to verify that when we

347
00:17:45,990 --> 00:17:42,559
take lyo2 out of the bag and install it

348
00:17:47,990 --> 00:17:46,000
we then put lyl1 in the storage location

349
00:17:51,430 --> 00:17:48,000
but outside of the bag and that just the

350
00:18:00,230 --> 00:17:51,440
bag goes to endeavour is that correct

351
00:18:02,950 --> 00:18:01,590
and again that was

352
00:18:06,150 --> 00:18:02,960
commander mike hopkins getting some

353
00:18:09,430 --> 00:18:06,160
clarification on some lyo checkouts

354
00:18:23,669 --> 00:18:09,440
on screen is tomah pesquet talking

355
00:18:28,150 --> 00:18:26,070
so glover the pilot as i was mentioning

356
00:18:30,070 --> 00:18:28,160
he holds degrees in general engineering

357
00:18:31,990 --> 00:18:30,080
flight tests engineering systems

358
00:18:34,710 --> 00:18:32,000
engineering and military operational art

359
00:18:36,549 --> 00:18:34,720
and science he has extensive military

360
00:18:39,110 --> 00:18:36,559
test flight experience was a test plan

361
00:18:41,669 --> 00:18:39,120
for the fa-18 hornet the super hornet

362
00:18:44,470 --> 00:18:41,679
and ea-18g growler

363
00:18:46,870 --> 00:18:44,480

he has accumulated 3 000 flight hours in

364
00:18:50,390 --> 00:18:46,880
more than 40 aircraft over 400 carrier

365
00:18:52,870 --> 00:18:50,400
arrest landing and 24 combat missions

366
00:18:54,789 --> 00:18:52,880
this was actually his first space flight

367
00:18:57,029 --> 00:18:54,799
and also a fun fact yesterday was his

368
00:18:58,630 --> 00:18:57,039
birthday so he gets an exciting birthday

369
00:19:01,270 --> 00:18:58,640
week and he gets to spend part of it in

370
00:19:03,669 --> 00:19:01,280
space and also the other part back on

371
00:19:06,230 --> 00:19:03,679
earth what more could you ask for happy

372
00:19:08,310 --> 00:19:06,240
elated birthday victory glover

373
00:19:10,870 --> 00:19:08,320
his crew member mission specialist

374
00:19:12,950 --> 00:19:10,880
shannon walker is from houston texas she

375
00:19:15,510 --> 00:19:12,960
was selected as an astronaut by nasa in

376
00:19:17,830 --> 00:19:15,520
2004 and is a doctor of philosophy in

377
00:19:19,350 --> 00:19:17,840
space physics walker flew on the russian

378
00:19:21,909 --> 00:19:19,360
soyuz as a flight engineer for

379
00:19:25,270 --> 00:19:21,919
expedition 2425 aboard the international

380
00:19:26,870 --> 00:19:25,280
space station in space for 163 days

381
00:19:28,789 --> 00:19:26,880
during that mission she was the robotics

382
00:19:30,630 --> 00:19:28,799
operator supporting three contingency

383
00:19:32,710 --> 00:19:30,640
spacewalks to remove and replace a

384
00:19:35,190 --> 00:19:32,720
failed module a failed pump module

385
00:19:37,270 --> 00:19:35,200
specifically on the space station

386
00:19:39,830 --> 00:19:37,280
shannon is also one of only a few dozen

387
00:19:42,390 --> 00:19:39,840
people to be both an astronaut and an

388
00:19:44,470 --> 00:19:42,400

aquanaut having spent 13 days underwater

389
00:19:46,870 --> 00:19:44,480
during nasa's extreme environments

390
00:19:49,669 --> 00:19:46,880
mission operations 15 actually called

391
00:19:52,549 --> 00:19:49,679
nemo 15. during the mission she lived

392
00:19:55,190 --> 00:19:52,559
inside the world's only research station

393
00:19:57,350 --> 00:19:55,200
aquarius which sits at 60 feet beneath

394
00:20:02,149 --> 00:19:57,360
the ocean surface and just down the road

395
00:20:06,950 --> 00:20:04,549
and last but certainly not least mission

396
00:20:09,430 --> 00:20:06,960
specialists specialist soichi noguchi

397
00:20:10,149 --> 00:20:09,440
is from yokohama kanagawa japan we saw

398
00:20:13,190 --> 00:20:10,159
him

399
00:20:15,350 --> 00:20:13,200
donned in his spacesuit and entered the

400
00:20:17,270 --> 00:20:15,360
dragon vehicle just earlier he was

401
00:20:20,710 --> 00:20:17,280
selected as an astronaut by japan in

402
00:20:22,390 --> 00:20:20,720
1996 has degrees in aeronautical

403
00:20:25,029 --> 00:20:22,400
engineering and is a doctor of

404
00:20:28,110 --> 00:20:25,039
philosophy in advanced interdisciplinary

405
00:20:31,470 --> 00:20:28,120
studies noguchi has logged a total of

406
00:20:34,149 --> 00:20:31,480
177 days in space having flown on the

407
00:20:36,230 --> 00:20:34,159
sts-114 on the space shuttle discovery

408
00:20:40,149 --> 00:20:36,240
and on the russian soyuz as a member of

409
00:20:42,630 --> 00:20:40,159
the expedition 23 20 22 23 crew and

410
00:20:45,029 --> 00:20:42,640
while in sts 114 he became the first

411
00:20:46,390 --> 00:20:45,039
japanese astronaut to perform spacewalks

412
00:20:49,029 --> 00:20:46,400
on the international space station

413
00:20:52,070 --> 00:20:49,039

completing three spacewalks totaling 20

414
00:20:53,590 --> 00:20:52,080
hours he's also one of very few people

415
00:21:04,470 --> 00:20:53,600
that have flown on three different

416
00:21:04,480 --> 00:21:41,029
thanks

417
00:21:47,590 --> 00:21:44,950
suicide as you mentioned logging 177

418
00:21:49,590 --> 00:21:47,600
hours on uh his previous space flight

419
00:21:51,590 --> 00:21:49,600
and this time he comes home all four of

420
00:21:53,270 --> 00:21:51,600
these astronauts come home having added

421
00:21:54,390 --> 00:21:53,280
168

422
00:22:04,390 --> 00:21:54,400
extra days

423
00:22:08,710 --> 00:22:05,830
hey we copied

424
00:22:11,510 --> 00:22:08,720
10 to 5 for that lio time but it is

425
00:22:19,029 --> 00:22:11,520
currently 10-2-2 can you confirm we

426
00:22:25,430 --> 00:22:22,230
uh yeah so my ipad's got a little fast

427
00:22:34,070 --> 00:22:25,440
on it so 102 works

428
00:22:37,909 --> 00:22:35,830
a crew discussing those lithium

429
00:22:39,590 --> 00:22:37,919
hydroxide canisters

430
00:22:41,669 --> 00:22:39,600
being switched out so we mentioned

431
00:22:44,070 --> 00:22:41,679
they're coming home with 168 days in

432
00:22:46,070 --> 00:22:44,080
space these four crew members and once

433
00:22:48,470 --> 00:22:46,080
they splash down they will be breaking a

434
00:22:49,909 --> 00:22:48,480
record from the uh set by the final

435
00:22:53,270 --> 00:22:49,919
skylab crew

436
00:22:55,750 --> 00:22:53,280
of 84 days one hour and 15 minutes in

437
00:22:58,870 --> 00:22:55,760
space by an american crude spacecraft

438
00:23:04,310 --> 00:22:58,880

and that was in february 1974 so

439
00:23:09,190 --> 00:23:06,950
the crew is continuing to ingress the

440
00:23:11,750 --> 00:23:09,200
dragon the next major event coming up as

441
00:23:13,590 --> 00:23:11,760
they continue to do checkouts is dragon

442
00:23:18,950 --> 00:23:13,600
hatch closure

443
00:23:20,470 --> 00:23:18,960
the space station side

444
00:23:22,549 --> 00:23:20,480
and we heard that

445
00:23:24,230 --> 00:23:22,559
shannon walker and suicina gucci we saw

446
00:23:26,549 --> 00:23:24,240
they were already in their suits prior

447
00:23:28,390 --> 00:23:26,559
to ingressing crew dragon so they were

448
00:23:29,909 --> 00:23:28,400
able to get in their seats and and plug

449
00:23:32,789 --> 00:23:29,919
in those umbilicals which are part of

450
00:23:36,549 --> 00:23:32,799
the suits that allow for communications

451
00:23:38,630 --> 00:23:36,559
data and uh and air as well to flow into

452
00:23:40,630 --> 00:23:38,640
the suit

453
00:23:41,590 --> 00:23:40,640
mike hopkins and victor glover you can

454
00:23:43,190 --> 00:23:41,600
see

455
00:23:45,269 --> 00:23:43,200
inside the capsule getting our first

456
00:23:46,549 --> 00:23:45,279
look of the day inside crew dragon

457
00:23:48,070 --> 00:23:46,559
resilience

458
00:23:50,470 --> 00:23:48,080
victor glover there at the top of your

459
00:23:52,390 --> 00:23:50,480
screen he and hopkins will

460
00:24:11,590 --> 00:23:52,400
suit up shortly looks like they might be

461
00:24:16,149 --> 00:24:13,269
so the hands that you see closest to

462
00:24:18,390 --> 00:24:16,159
your screen that is

463
00:24:19,990 --> 00:24:18,400

from astronaut shannon walker again the

464
00:24:21,430 --> 00:24:20,000
mission specialists donned their suits

465
00:24:23,830 --> 00:24:21,440
before ingressing

466
00:24:25,830 --> 00:24:23,840
commander mike hopkins and pilot victor

467
00:24:26,950 --> 00:24:25,840
glover will don their suits after hatch

468
00:24:29,110 --> 00:24:26,960
closure

469
00:24:31,190 --> 00:24:29,120
and it looks like they were just doing

470
00:24:46,230 --> 00:24:31,200
just that closing that

471
00:24:49,590 --> 00:24:47,750
so what um

472
00:24:51,909 --> 00:24:49,600
mike and victor are wearing are

473
00:24:53,510 --> 00:24:51,919
essentially comfort garments it's like

474
00:25:01,750 --> 00:24:53,520
athletic wear that they will wear

475
00:25:05,190 --> 00:25:03,750
there's actually two hatches uh the

476
00:25:07,269 --> 00:25:05,200
forward hatch that leah had mentioned

477
00:25:09,750 --> 00:25:07,279
that they are currently working to close

478
00:25:11,430 --> 00:25:09,760
there is also a side hatch

479
00:25:12,950 --> 00:25:11,440
that later on after splash sound that

480
00:25:14,789 --> 00:25:12,960
that's where they will

481
00:25:16,310 --> 00:25:14,799
egress from and that's the same hatch

482
00:25:19,269 --> 00:25:16,320
that they used to ingress when they were

483
00:25:20,390 --> 00:25:19,279
launching back in november last year

484
00:25:23,510 --> 00:25:20,400
the view on your left from the

485
00:25:25,590 --> 00:25:23,520
international space station side of

486
00:25:27,190 --> 00:25:25,600
the operation

487
00:25:29,110 --> 00:25:27,200
not only does that dragon hatch have to

488
00:25:31,350 --> 00:25:29,120

be closed the a pass hatch has to be

489
00:25:33,269 --> 00:25:31,360
closed as well

490
00:25:35,029 --> 00:25:33,279
crew member

491
00:25:36,149 --> 00:25:35,039
shane kimbrough

492
00:25:39,029 --> 00:25:36,159
resilience

493
00:25:46,549 --> 00:25:39,039
hatch is closed

494
00:25:46,559 --> 00:25:57,029
not available

495
00:26:01,269 --> 00:25:59,430
poppy sounds good and for your awareness

496
00:26:03,590 --> 00:26:01,279
we do plan to do a short nitrox

497
00:26:14,470 --> 00:26:03,600
injection following hatch closure to

498
00:26:19,590 --> 00:26:17,190
that hatch closure call coming at 3 25

499
00:26:22,630 --> 00:26:19,600
pm pacific time as the international

500
00:26:28,310 --> 00:26:22,640
space station was flying 269 statute

501
00:26:32,070 --> 00:26:29,990
we also heard the call that they have

502
00:26:34,230 --> 00:26:32,080
good calms in their suits again as i

503
00:26:35,590 --> 00:26:34,240
mentioned there's an umbilical on the

504
00:26:38,710 --> 00:26:35,600
right thigh

505
00:26:40,549 --> 00:26:38,720
of the suit that will give the suit all

506
00:26:43,750 --> 00:26:40,559
the avionics and electronics they need

507
00:26:45,590 --> 00:26:43,760
including the comms it also provides air

508
00:26:48,070 --> 00:26:45,600
and gases

509
00:26:50,789 --> 00:26:48,080
later on as you know we

510
00:26:52,710 --> 00:26:50,799
the dragon's capsule reenters there's

511
00:26:55,430 --> 00:26:52,720
atmosphere it gets exceedingly hot and

512
00:26:56,870 --> 00:26:55,440
so there is nitrox purge through the

513
00:26:58,870 --> 00:26:56,880

suit to keep the astronauts nice and

514
00:27:01,029 --> 00:26:58,880
cool and nitrox is essentially a

515
00:27:02,870 --> 00:27:01,039
combination of nitrogen oxygen very

516
00:27:12,870 --> 00:27:02,880
similar to the breathable air that we

517
00:27:16,310 --> 00:27:14,230
and we were talking a little bit about

518
00:27:18,549 --> 00:27:16,320
those comfort garments they serve

519
00:27:19,269 --> 00:27:18,559
another purpose as well

520
00:27:20,789 --> 00:27:19,279
they

521
00:27:22,789 --> 00:27:20,799
if you're familiar with compression

522
00:27:26,470 --> 00:27:22,799
socks it's sort of a similar thing

523
00:27:28,950 --> 00:27:26,480
they're orthostatic garments that uh

524
00:27:30,789 --> 00:27:28,960
these help the crew uh their their sort

525
00:27:33,590 --> 00:27:30,799
of compression pants and squeeze their

526
00:27:35,669 --> 00:27:33,600
legs that helps force the fluid from

527
00:27:36,950 --> 00:27:35,679
their legs up toward the upper part of

528
00:27:38,070 --> 00:27:36,960
their body when they come back to

529
00:27:39,590 --> 00:27:38,080
gravity

530
00:27:42,310 --> 00:27:39,600
helps everybody feel a little bit better

531
00:27:44,950 --> 00:27:42,320
after spending six months in space

532
00:27:47,430 --> 00:27:44,960
and looks like we do have some satellite

533
00:27:49,350 --> 00:27:47,440
handoffs that is to be expected they're

534
00:27:51,909 --> 00:27:49,360
part of the tracking data and relay

535
00:27:54,389 --> 00:27:51,919
satellites that are stationed i believe

536
00:27:56,230 --> 00:27:54,399
in geostationary orbit 22 000 miles

537
00:27:58,710 --> 00:27:56,240
above the earth's surface and so we

538
00:28:00,149 --> 00:27:58,720

should we we expect them we should get

539
00:28:01,110 --> 00:28:00,159
communications and video back here

540
00:28:03,590 --> 00:28:01,120
shortly

541
00:28:06,630 --> 00:28:03,600
that is a view of mission control in

542
00:28:09,269 --> 00:28:06,640
hawthorne just to my left

543
00:28:11,510 --> 00:28:09,279
as the team here continues to support

544
00:28:13,909 --> 00:28:11,520
dragon departure and docking and

545
00:28:16,230 --> 00:28:13,919
eventually splash down later on tonight

546
00:28:18,470 --> 00:28:16,240
yeah we should expect to get that uh

547
00:28:19,990 --> 00:28:18,480
communications back in just under two

548
00:28:21,590 --> 00:28:20,000
minutes now

549
00:28:23,029 --> 00:28:21,600
but as you mentioned you've got spacex

550
00:28:25,350 --> 00:28:23,039
hawthorne there and we heard from brandy

551
00:28:27,110 --> 00:28:25,360
dean earlier in mission control houston

552
00:28:28,710 --> 00:28:27,120
the teams are still in joint operations

553
00:28:30,789 --> 00:28:28,720
meaning they're working together

554
00:28:32,710 --> 00:28:30,799
ensuring the safety and the proper

555
00:28:35,909 --> 00:28:32,720
execution of everything that happens

556
00:28:38,710 --> 00:28:35,919
today and that will occur until the

557
00:28:41,110 --> 00:28:38,720
vehicle crew dragon is outside of the

558
00:28:43,190 --> 00:28:41,120
approach ellipsoid at that point the

559
00:28:44,710 --> 00:28:43,200
international space station teams will

560
00:28:47,269 --> 00:28:44,720
continue monitoring the international

561
00:28:49,990 --> 00:28:47,279
space station as they do 24 hours a day

562
00:28:52,310 --> 00:28:50,000
365 days a year and teams here in

563
00:28:55,029 --> 00:28:52,320

hawthorne will be focused on crew dragon

564
00:28:58,789 --> 00:28:57,750
so this crew one team they launched in

565
00:29:01,510 --> 00:28:58,799
november

566
00:29:03,830 --> 00:29:01,520
15th of last year it took him about 27

567
00:29:05,510 --> 00:29:03,840
hours to get from earth to the

568
00:29:07,190 --> 00:29:05,520
international space station and dock and

569
00:29:10,070 --> 00:29:07,200
open that hatch today is going to be a

570
00:29:11,830 --> 00:29:10,080
little different after we

571
00:29:14,070 --> 00:29:11,840
undock it will take about six and a half

572
00:29:15,990 --> 00:29:14,080
hours from the international station

573
00:29:17,909 --> 00:29:16,000
from the international space station to

574
00:29:20,070 --> 00:29:17,919
deorbit uh re-enter the earth's

575
00:29:22,950 --> 00:29:20,080
atmosphere and eventually splash down in

576
00:29:25,269 --> 00:29:22,960
panama city off the coast of panama city

577
00:29:27,830 --> 00:29:25,279
uh um in florida

578
00:29:28,950 --> 00:29:27,840
so quite a bit of difference there um

579
00:29:31,029 --> 00:29:28,960
the

580
00:29:35,750 --> 00:29:31,039
return duration can take anywhere from

581
00:29:36,870 --> 00:29:35,760
six to uh upwards of 30 plus hours

582
00:29:50,470 --> 00:29:36,880
the

583
00:29:51,590 --> 00:29:50,480
today it's going to be a nice short one

584
00:29:54,470 --> 00:29:51,600
for the astronauts they don't have to

585
00:29:56,470 --> 00:29:54,480
wait too long uh in the the resilient

586
00:29:58,789 --> 00:29:56,480
space council it's pretty impressive if

587
00:30:00,470 --> 00:29:58,799
you ask me uh you know you can't really

588
00:30:01,669 --> 00:30:00,480

drive across the state of texas in seven

589
00:30:03,430 --> 00:30:01,679
hours but you can make it from the

590
00:30:04,389 --> 00:30:03,440
international space station back down to

591
00:30:05,909 --> 00:30:04,399
earth

592
00:30:09,510 --> 00:30:05,919
and some of those factors that we were

593
00:30:12,389 --> 00:30:09,520
discussing um that that play into the

594
00:30:14,310 --> 00:30:12,399
length of a return can be a lot of times

595
00:30:16,310 --> 00:30:14,320
we see crew sleep we want to make sure

596
00:30:18,789 --> 00:30:16,320
that the crew are rested and able to

597
00:30:21,510 --> 00:30:18,799
monitor the vehicle as it returns and of

598
00:30:23,269 --> 00:30:21,520
course crew dragon is fully autonomous

599
00:30:25,510 --> 00:30:23,279
but we want to just allow them to keep

600
00:30:27,190 --> 00:30:25,520
an eye on it and not get too tired as

601
00:30:29,110 --> 00:30:27,200
they step through those procedures so

602
00:30:37,350 --> 00:30:29,120
that definitely played in their favor

603
00:30:43,590 --> 00:30:40,230
so the next stop is uh for now that the

604
00:30:46,149 --> 00:30:43,600
dragon hatch is closed uh the commander

605
00:30:47,750 --> 00:30:46,159
mike hopkins and the pilot victor glover

606
00:30:49,669 --> 00:30:47,760
will don their spacesuits so a little

607
00:30:52,310 --> 00:30:49,679
bit more about the suits themselves they

608
00:30:54,470 --> 00:30:52,320
are custom-made one-piece suits

609
00:30:56,070 --> 00:30:54,480
the gloves the boots the helmets are all

610
00:30:58,149 --> 00:30:56,080
integrated into the suit so effectively

611
00:30:59,990 --> 00:30:58,159
it's like a onesie you kind of get in

612
00:31:01,669 --> 00:31:00,000
and everything just zips up

613
00:31:04,310 --> 00:31:01,679

and then the umbilical that i mentioned

614
00:31:05,750 --> 00:31:04,320
earlier will pressurize it and and give

615
00:31:07,110 --> 00:31:05,760
you know all the electronics that they

616
00:31:08,630 --> 00:31:07,120
need

617
00:31:10,310 --> 00:31:08,640
for the suit to be able to communicate

618
00:31:13,190 --> 00:31:10,320
from space to ground

619
00:31:15,509 --> 00:31:13,200
the helmet itself is 3d printed nylon

620
00:31:17,830 --> 00:31:15,519
and the outside of it is made up of a

621
00:31:20,230 --> 00:31:17,840
few different materials the gray

622
00:31:21,430 --> 00:31:20,240
material is nomex which is

623
00:31:23,669 --> 00:31:21,440
related to

624
00:31:26,070 --> 00:31:23,679
nylon just a little bit different it has

625
00:31:28,549 --> 00:31:26,080
some additional properties that

626
00:31:30,470 --> 00:31:28,559
the astronauts definitely would enjoy it

627
00:31:32,950 --> 00:31:30,480
includes a sort of temperature

628
00:31:35,029 --> 00:31:32,960
resistance and radiation resistance and

629
00:31:38,070 --> 00:31:35,039
chemical resistance as well and the

630
00:31:43,029 --> 00:31:38,080
white uh part is

631
00:31:46,549 --> 00:31:44,950
but each of the

632
00:31:47,830 --> 00:31:46,559
suits are custom made to each of the

633
00:31:50,230 --> 00:31:47,840
astronauts

634
00:31:52,149 --> 00:31:50,240
and as we continue to get crew ready to

635
00:31:54,630 --> 00:31:52,159
depart the space station we are now

636
00:31:55,909 --> 00:31:54,640
joined by nasa's commercial crew program

637
00:31:57,990 --> 00:31:55,919
manager

638
00:31:59,509 --> 00:31:58,000

steve stitch from houston steve thanks

639
00:32:01,190 --> 00:31:59,519
for popping in and we're hoping you

640
00:32:03,430 --> 00:32:01,200
could give us some insight to the steps

641
00:32:07,669 --> 00:32:03,440
nasa and spacex have taken to get ready

642
00:32:11,669 --> 00:32:09,269
okay hey thank you very much it's great

643
00:32:15,350 --> 00:32:11,679
to be here it's uh it's pretty exciting

644
00:32:17,269 --> 00:32:15,360
uh to watch the crew getting ready to uh

645
00:32:18,789 --> 00:32:17,279
to undock here and just a little bit

646
00:32:21,029 --> 00:32:18,799
under two hours

647
00:32:23,269 --> 00:32:21,039
uh we've spent a lot of time over the

648
00:32:24,310 --> 00:32:23,279
last uh week or so getting ready to come

649
00:32:26,070 --> 00:32:24,320
home

650
00:32:29,269 --> 00:32:26,080
uh you know one of the big factors has

651
00:32:31,430 --> 00:32:29,279
been um weather and trying to find the

652
00:32:33,990 --> 00:32:31,440
right the right circumstances and

653
00:32:35,830 --> 00:32:34,000
situation to to bring the crew home

654
00:32:37,110 --> 00:32:35,840
so what we typically do is we start

655
00:32:40,070 --> 00:32:37,120
looking at whether you know we were

656
00:32:42,070 --> 00:32:40,080
originally going to undock and and land

657
00:32:43,269 --> 00:32:42,080
on wednesday and so around monday we

658
00:32:45,269 --> 00:32:43,279
started looking at the trends in the

659
00:32:47,430 --> 00:32:45,279
weather and evaluating all the different

660
00:32:49,590 --> 00:32:47,440
sites and trying to find the best best

661
00:32:51,350 --> 00:32:49,600
option to come home and so you know it's

662
00:32:52,630 --> 00:32:51,360
taken a little while to find that

663
00:32:55,430 --> 00:32:52,640

optimal weather

664
00:32:58,310 --> 00:32:55,440
uh really what we're looking for is uh

665
00:32:59,990 --> 00:32:58,320
winds under about uh six to eight miles

666
00:33:01,430 --> 00:33:00,000
per hour in that range and so we've been

667
00:33:02,389 --> 00:33:01,440
looking at the sites over the last few

668
00:33:04,710 --> 00:33:02,399
days

669
00:33:06,789 --> 00:33:04,720
and it turns out that the best site uh

670
00:33:08,630 --> 00:33:06,799
over the last uh

671
00:33:10,149 --> 00:33:08,640
three days or so has been this panama

672
00:33:17,350 --> 00:33:10,159
city site and so that's really one of

673
00:33:21,269 --> 00:33:18,549
uh i'll tell you a little bit more

674
00:33:23,750 --> 00:33:21,279
details about about the yeah

675
00:33:26,630 --> 00:33:23,760
sorry so there was a change uh and now

676
00:33:28,630 --> 00:33:26,640
we're targeting a knight's landing

677
00:33:31,190 --> 00:33:28,640
which will be another first for crew for

678
00:33:33,750 --> 00:33:31,200
dragon with crew so how have the teams

679
00:33:35,430 --> 00:33:33,760
uh sort of change and anticipated in

680
00:33:39,669 --> 00:33:35,440
order to make sure that this night

681
00:33:43,590 --> 00:33:41,430
yeah well first of all the vehicle is

682
00:33:46,070 --> 00:33:43,600
certified to land uh in day or night

683
00:33:48,470 --> 00:33:46,080
there's really uh not an issue with the

684
00:33:51,269 --> 00:33:48,480
vehicle itself and and recovery we have

685
00:33:54,149 --> 00:33:51,279
been practicing uh to recover the cruise

686
00:33:55,509 --> 00:33:54,159
in day day or night uh we knew that we

687
00:33:57,830 --> 00:33:55,519
when you look at kind of how we've set

688
00:33:59,590 --> 00:33:57,840

up the program uh we have crew rotation

689
00:34:02,870 --> 00:33:59,600
missions in april and october and we

690
00:34:04,310 --> 00:34:02,880
pick those months for weather and so in

691
00:34:07,110 --> 00:34:04,320
either of those months we can have both

692
00:34:09,190 --> 00:34:07,120
a daylight or nine opportunities

693
00:34:11,349 --> 00:34:09,200
and so they've been practicing uh

694
00:34:13,510 --> 00:34:11,359
recently on the last cargo mission in

695
00:34:16,149 --> 00:34:13,520
fact the crs-21 mission which which

696
00:34:18,230 --> 00:34:16,159
landed in um in january that was a night

697
00:34:19,669 --> 00:34:18,240
landing and the spacex team

698
00:34:21,750 --> 00:34:19,679
recovered that vehicle and the crew

699
00:34:23,430 --> 00:34:21,760
dragon and cargo dragon are

700
00:34:25,430 --> 00:34:23,440
very much identical so we've been

701
00:34:27,190 --> 00:34:25,440
getting ready for this opportunity

702
00:34:28,629 --> 00:34:27,200
and the primary switch was really for

703
00:34:30,069 --> 00:34:28,639
the weather you know right now the

704
00:34:30,950 --> 00:34:30,079
weather forecast for this particular

705
00:34:32,950 --> 00:34:30,960
landing

706
00:34:35,750 --> 00:34:32,960
is winds on the order of about three

707
00:34:38,550 --> 00:34:35,760
miles per hour and uh the sea states are

708
00:34:41,430 --> 00:34:38,560
about one foot so i got some pictures

709
00:34:43,589 --> 00:34:41,440
today from the from the ship and uh the

710
00:34:45,190 --> 00:34:43,599
recovery ship and the water looks just

711
00:34:46,629 --> 00:34:45,200
like glass and so when we were looking

712
00:34:48,470 --> 00:34:46,639
at opportunities

713
00:34:50,389 --> 00:34:48,480

and we debated this switch tonight very

714
00:34:52,629 --> 00:34:50,399
carefully you know what one of the big

715
00:34:54,550 --> 00:34:52,639
considerations was the weather was so

716
00:34:55,510 --> 00:34:54,560
so good and so benign so we're putting

717
00:34:57,109 --> 00:34:55,520
the crew

718
00:34:59,109 --> 00:34:57,119
and the vehicle down in very benign

719
00:35:00,710 --> 00:34:59,119
winds and very benign waves

720
00:35:02,790 --> 00:35:00,720
and so that's best for the crew and best

721
00:35:05,349 --> 00:35:02,800
for the vehicle and then when we looked

722
00:35:06,790 --> 00:35:05,359
at the night opportunity uh it's also it

723
00:35:09,589 --> 00:35:06,800
turns out that we'll have quite a bit of

724
00:35:11,349 --> 00:35:09,599
moonlight we'll have a few high clouds

725
00:35:13,670 --> 00:35:11,359
maybe around 22 000 feet but they'll be

726
00:35:16,230 --> 00:35:13,680
very thin and so we'll have a good moon

727
00:35:18,470 --> 00:35:16,240
light out in that area as well and then

728
00:35:21,190 --> 00:35:18,480
you know the ships have lots of lighting

729
00:35:22,790 --> 00:35:21,200
and lots of night uh capability

730
00:35:26,069 --> 00:35:22,800
and so that you know the fast boats from

731
00:35:27,670 --> 00:35:26,079
the spacex go uh go navigator ship will

732
00:35:29,190 --> 00:35:27,680
go out and they'll be at the capsule in

733
00:35:31,109 --> 00:35:29,200
about 10 minutes after splashdown so

734
00:35:32,470 --> 00:35:31,119
when we weighed all those options it

735
00:35:34,870 --> 00:35:32,480
just looked like this was the best time

736
00:35:36,870 --> 00:35:34,880
to come home the best opportunity

737
00:35:38,310 --> 00:35:36,880
when we looked at the winds for most of

738
00:35:39,990 --> 00:35:38,320

the week at these daytime opportunities

739
00:35:42,150 --> 00:35:40,000
the winds were pretty high

740
00:35:43,589 --> 00:35:42,160
and so you know after we

741
00:35:45,030 --> 00:35:43,599
talked about it for several days we

742
00:35:46,790 --> 00:35:45,040
convinced ourselves hey the right thing

743
00:35:48,870 --> 00:35:46,800
to do is bring the crew home and this

744
00:35:50,390 --> 00:35:48,880
night opportunity the vehicle and the

745
00:35:51,670 --> 00:35:50,400
recovery team are certified to go do

746
00:35:53,510 --> 00:35:51,680
that operation

747
00:35:55,190 --> 00:35:53,520
we talked it over carefully with uh with

748
00:35:56,390 --> 00:35:55,200
the spacex recovery team and and they're

749
00:35:57,990 --> 00:35:56,400
ready to go

750
00:35:59,750 --> 00:35:58,000
and in fact the ships out there on

751
00:36:01,670 --> 00:35:59,760
position right now ready for the

752
00:36:03,349 --> 00:36:01,680
recovery

753
00:36:04,950 --> 00:36:03,359
well thanks so much for the time steve

754
00:36:09,349 --> 00:36:04,960
do you have any final thoughts before we

755
00:36:13,910 --> 00:36:11,109
no i would just say we're excited about

756
00:36:16,230 --> 00:36:13,920
the return you know uh entry is always a

757
00:36:17,190 --> 00:36:16,240
nervous time for for me and others at

758
00:36:19,510 --> 00:36:17,200
nasa

759
00:36:21,109 --> 00:36:19,520
uh and i'm really excited for the

760
00:36:23,109 --> 00:36:21,119
landing i'm very proud of the teams that

761
00:36:25,030 --> 00:36:23,119
work so hard on this mission

762
00:36:26,630 --> 00:36:25,040
uh for all these months while the crew

763
00:36:28,710 --> 00:36:26,640

was on station and then preparing for

764
00:36:29,990 --> 00:36:28,720
that mission if you just step back and

765
00:36:32,390 --> 00:36:30,000
think about

766
00:36:34,470 --> 00:36:32,400
this month of april now heading into may

767
00:36:37,109 --> 00:36:34,480
it's it's been very busy for commercial

768
00:36:39,670 --> 00:36:37,119
crew we had a port relocate

769
00:36:40,950 --> 00:36:39,680
of this vehicle early in the month on

770
00:36:43,750 --> 00:36:40,960
april the 5th

771
00:36:45,349 --> 00:36:43,760
a launch not very many days ago now just

772
00:36:48,069 --> 00:36:45,359
a little over a week ago

773
00:36:50,230 --> 00:36:48,079
on april the 23rd and then you know now

774
00:36:52,550 --> 00:36:50,240
this uh return and landing for the crew

775
00:36:54,870 --> 00:36:52,560
one vehicle and crew and it's just an

776
00:36:56,390 --> 00:36:54,880
exciting time i can't uh i can't thank

777
00:36:58,390 --> 00:36:56,400
the teams enough for all their hard work

778
00:37:00,150 --> 00:36:58,400
at spacex at nasa

779
00:37:01,829 --> 00:37:00,160
across the country

780
00:37:04,150 --> 00:37:01,839
uh you know it's a very big team effort

781
00:37:06,069 --> 00:37:04,160
not only between nasa and spacex but

782
00:37:08,550 --> 00:37:06,079
uh the faa is involved in clearing the

783
00:37:10,550 --> 00:37:08,560
airspace for the landing the coast

784
00:37:13,109 --> 00:37:10,560
guard's involved in making sure

785
00:37:15,190 --> 00:37:13,119
we have noticed mariners and boats out

786
00:37:17,109 --> 00:37:15,200
and also patrolling the area

787
00:37:19,270 --> 00:37:17,119
the federal communication

788
00:37:21,589 --> 00:37:19,280

commission looking at the re-entry and

789
00:37:24,069 --> 00:37:21,599
the communications and then finally the

790
00:37:25,109 --> 00:37:24,079
department of defense detachment three

791
00:37:26,550 --> 00:37:25,119
uh

792
00:37:29,190 --> 00:37:26,560
in the event of a contingency they're

793
00:37:31,349 --> 00:37:29,200
available to go uh do a worldwide rescue

794
00:37:33,030 --> 00:37:31,359
of the crew and so we have a great team

795
00:37:34,710 --> 00:37:33,040
uh we're ready to go and we're well

796
00:37:40,150 --> 00:37:34,720
practiced and so uh we're looking

797
00:37:44,710 --> 00:37:42,630
again that was steve stitch nasa's

798
00:37:46,550 --> 00:37:44,720
commercial crew program manager giving

799
00:37:48,230 --> 00:37:46,560
us some additional detail details on the

800
00:37:50,390 --> 00:37:48,240
road to crew one's departure this

801
00:37:52,790 --> 00:37:50,400
evening it is excellent news that

802
00:37:54,390 --> 00:37:52,800
although it is a nighttime splashdown

803
00:37:56,230 --> 00:37:54,400
the sea states are

804
00:37:59,349 --> 00:37:56,240
pretty much ideal cons conditions with

805
00:38:01,829 --> 00:37:59,359
very little winds and very small waves

806
00:38:03,589 --> 00:38:01,839
now that dragon's hatched is closed the

807
00:38:05,109 --> 00:38:03,599
crew is preparing to depart we're going

808
00:38:07,349 --> 00:38:05,119
to take a short break before we get

809
00:38:09,430 --> 00:38:07,359
ready for undocking our live coverage

810
00:38:11,349 --> 00:38:09,440
we'll stay live with you the entire time

811
00:38:13,829 --> 00:38:11,359
until dragon splashes down off the coast

812
00:38:18,630 --> 00:38:13,839
of florida on target for saturday may

813
00:38:21,190 --> 00:38:18,640

1st at 11 57 pm pacific time or 6 56 gmt

814
00:38:23,030 --> 00:38:21,200
on sunday so don't go anywhere we will

815
00:38:26,390 --> 00:38:23,040
see you soon as crew one gets ready to

816
00:38:28,390 --> 00:38:26,400
depart the international space station

817
00:38:40,990 --> 00:38:28,400
not too long ago so assume it was done

818
00:38:53,290 --> 00:38:50,390
[Music]

819
00:39:15,310 --> 00:38:53,300
so